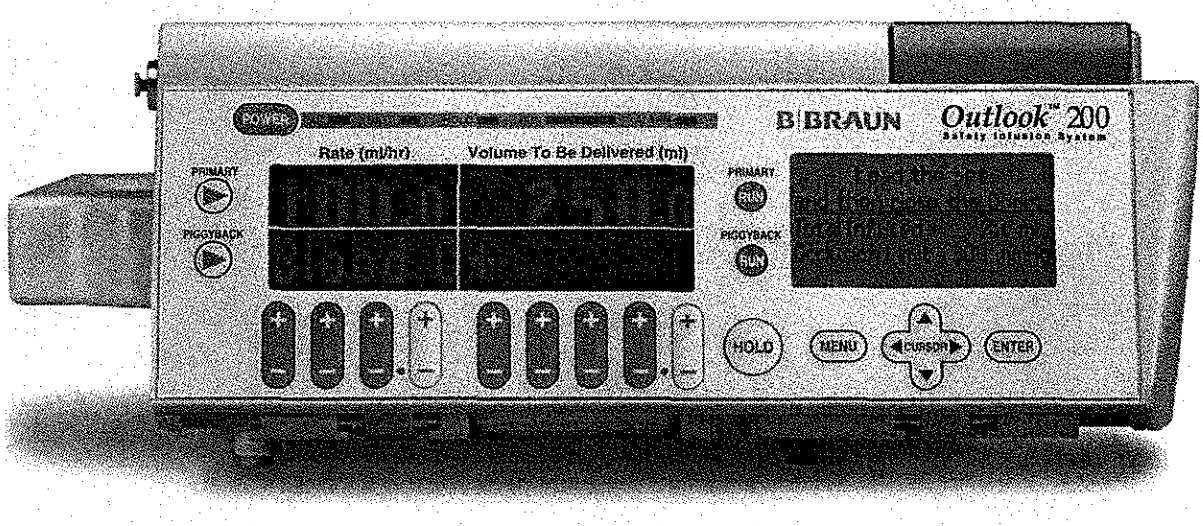
OUTLOOK™ 200 WITH DOSESCAN™

OPERATOR'S MANUAL



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Excellence in Safety™

Rx Only

B BRAUN

950952 Rev A (9/03)

OUTLOOK™ 200

OPERATOR'S MANUAL

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950952 Rev A (9/03)

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ABOUT THE PUMP

INTENDED USE

The Outlook™ 200 is intended for use with B. Braun Medical Inc. Horizon® Pump IV Sets to regulate the flow of primary and secondary fluids when positive pressure is required. The infusion system is capable of delivering fluid from a negative head height (when the IV fluid container is lower than the pump), and provides clinically accepted volumetric accuracy for all standard IV fluids, including blood, lipids, and TPN.

Positive pressure is frequently a necessity, but clinical experience shows that high pressure limits may increase the severity of an infiltration without causing an alarm. Because there is a need to control pump pressure settings, the Outlook 200 has user-selectable Occlusion Limit settings which start at 75 mmHg and extend to 500 mmHg. At rates of 400 ml/hr and higher, the pressure setting is automatically increased to 400 mmHg. For epidural infusions which require higher pressures, the pump has an extended occlusion limit setting of 750 mmHg.

The pump is equipped with distinct audible and visual alarm signals to indicate KVO, low battery, and other alarm conditions.

EPIDURAL ADMINISTRATION

The Outlook 200 can be used for epidural administration of anesthetic and analgesic drugs.

For epidural administration of anesthetic drugs, use indwelling catheters specifically indicated for short-term (96 hours or less) anesthetic epidural drug delivery.

For epidural administration of analgesic drugs, use indwelling catheters specifically indicated for either short-term or long-term analgesic epidural drug delivery.

When the Outlook 200 is being used for epidural infusions, the source container and administration set should be clearly differentiated from source containers and administration sets used for other routes of infusion.

Following an occlusion alarm, a small amount of fluid may be delivered. Use of a microbore set assures this is less than 0.1 ml.

The administration of drugs is restricted to those anesthetic and analgesic drugs labeled for continuous epidural administration.

BLOOD INFUSION

The Outlook™ 200 may be used for infusion of blood and blood products. For blood infusion, a Horizon® Pump Blood Set should be used. Do not attempt to piggyback blood. The normal saline roller clamp on the blood tubing set must be clamped off. The high viscosity of blood will cause the saline to infuse before the blood if both clamps are left open.

ICONS

The following icons identify the supplemental information contained in this manual.

ATTENTION: This icon will direct the user to consult additional information.

NOTE: This icon will provide additional information for a given topic in this manual.

CAUTIONS or WARNINGS: This icon will provide safety recommendations in order to prevent accident or injury to the user or the patient.

WARNINGS

The following warnings should be followed in order to avoid patient/user injury.

WARNING This Operator's Manual contains detailed instructions and warnings on the use of the Outlook 200. Please read it completely prior to using this device. This manual is intended to reinforce the teaching given to the user by a trained health care professional or an authorized B. Braun representative.

WARNING B. Braun will assume no responsibility for incidents which may occur if the product is not used in accordance with product labeling.

WARNING The Outlook 200 has been designed to stop fluid flow to the patient under alarm conditions. Monitoring of the patient and infusion status is necessary to ensure the infusion is being delivered as anticipated. Prior to starting an infusion, verify no drops are falling in the drip chamber and the programmed information is correct. If drops are falling and the infusion has not begun, the set may be improperly loaded and further use may result in inaccurate infusion.

WARNING Do not connect the IV administration set to the patient while priming, as a bolus or over infusion may occur.

WARNING See EPIDURAL in DOSE Mode in Chapter 6: DOSE Mode for specific warnings and cautions related to epidural medication infusions.

WARNING To avoid mechanical or electronic damage, do not steam autoclave or immerse the pump in any fluids or cleaning solutions. Always disconnect the electrical power cord from the outlet before cleaning to prevent electrical shock.

WARNING Trained Biomedical professionals or B. Braun representatives must perform a full set-up of the pump before use in a clinical setting to ensure proper programming and function of device.

WARNING Do not use in the presence of flammable anesthetics, as a possible explosion hazard exists.

WARNING Avoid exposure to powerful sources of electromagnetic interference and strong magnetic fields such as Magnetic Resonance Imaging (MRI). Patient injury and equipment damage may result.

WARNING Device contains Class 2 laser product. Laser radiation present. Do not stare into beam.

CAUTIONS

The following cautions should be followed in order to avoid patient/user injury.

CAUTION Before using the pump in a clinical setting, the user should become thoroughly familiar with the proper use of the device as outlined in this manual. The Outlook™ 200 is not intended to substitute for regular patient observation and evaluation.

CAUTION The Outlook 200 may have been damaged during shipping and handling. Do not use the pump if it appears damaged or fails the initial self test outlined in "Turning on the Pump" as patient injury or device damage may occur.

CAUTION See DoseScan™ in Chapter 5: for specific cautions related to the DoseScan™ Label Scanner.

CAUTION It is not recommended to place more than five pumps together on one IV pole as the pole may become unstable. When attaching this pump to a pole, make sure it is clamped securely to avoid damage to the device from falling.

CAUTION This device is intended for use with B. Braun Medical Inc. Horizon® IV Pump Sets only. The use of other sets renders the device inoperable.

CAUTION Do not clean, disinfect, or sterilize any part of the device by autoclaving or with ethylene oxide gas. Doing so may damage the device and void the warranty. Only external parts of the pump should be disinfected. See Chapter 12: Maintenance, for suggested cleaning solutions.

CAUTION The Outlook 200 generates, uses and can radiate electromagnetic interference. Through testing to current US standards, the Outlook 200 has shown emission levels to be acceptable. Testing has also shown that the device's operation and performance is not adversely affected by electromagnetic interference. Given an environment in which the Outlook 200 device is operated in close proximity to equipment that emit high levels of radio frequency, it may be necessary to reorient or reposition the pump away from the source of the emissions. Should emissions from the Outlook 200 adversely affect other equipment, it may be necessary to increase the distance between devices, or operate the Outlook 200 on a separate power circuit from the affected device.

CAUTION Unless the pump is plugged into a hospital-grade electrical outlet, the reliability of the grounding cannot be assured.

CAUTION Perform testing and/or preventive maintenance as defined in the product Service Manual. It is necessary to perform all testing and preventive maintenance as defined in the product Service Manual, or the reliability and proper functionality of the unit cannot be assured.

CAUTION Where several infusion lines are connected, the possibility of their exerting a mutual influence on each other cannot be excluded.

⚠ ATTENTIONS

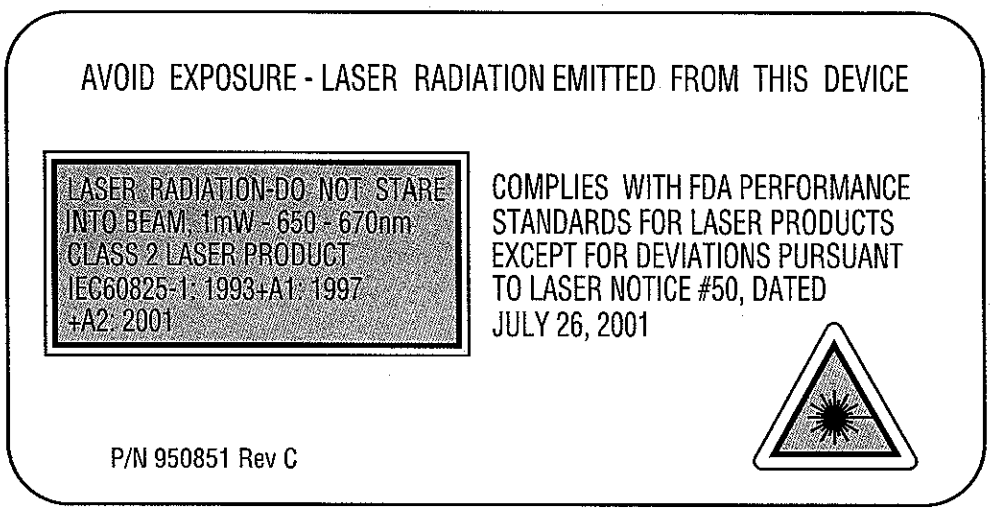
ATTENTION The Daisy Chain outlet is for use with Outlook pumps for the purpose of daisy chaining only. Do not daisy chain more than 5 pumps, as the total leakage current of a system containing more than 5 pumps may exceed 300uA.

ATTENTION The DB9 connector on the back of the Outlook pump is for use by authorized personnel only.

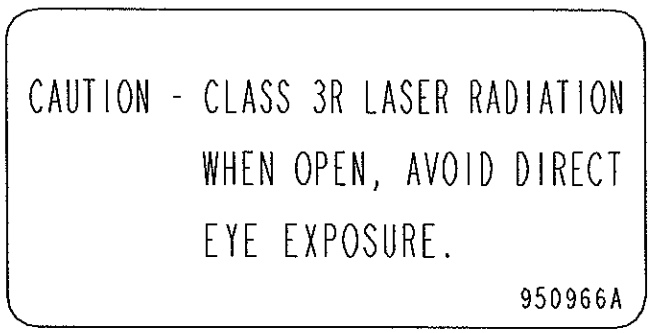
ATTENTION UL Classified Medical Equipment, with respect to Electrical Shock, Fire and Mechanical Hazards only, in accordance with UL2601-1, CAN/CSA C22.2 No. 601.1.

⚠ LASER CAUTION LABELS

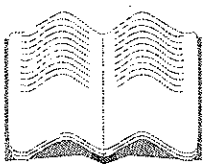
The following laser caution label (enlarged to show detail) is affixed to the handle of the device.


AVOID EXPOSURE - LASER RADIATION EMITTED FROM THIS DEVICE
LASER RADIATION-DO NOT STARE INTO BEAM. 1mW - 650 - 670nm CLASS 2 LASER PRODUCT IEC60825-1: 1993+A1: 1997 +A2: 2001
COMPLIES WITH FDA PERFORMANCE STANDARDS FOR LASER PRODUCTS EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE #50, DATED JULY 26, 2001
P/N 950851 Rev C

The following laser caution label is affixed to the bottom of the device.



CHAPTER 1: PUMP DESCRIPTION



IN THIS CHAPTER YOU WILL LEARN:

- The important keys used to operate the pump.
- The location of displays and other items needed to operate the pump.

IMPORTANT KEYS

An understanding of the function and location of these keys will assist in the use of the pump.

POWER 1. **POWER** turns the pump on and off.

RUN 2. **RUN** keys begin the infusion of either the Primary or Piggyback channels.

3. **Channel Indicator** keys select either the Primary or Piggyback channels for data entry.

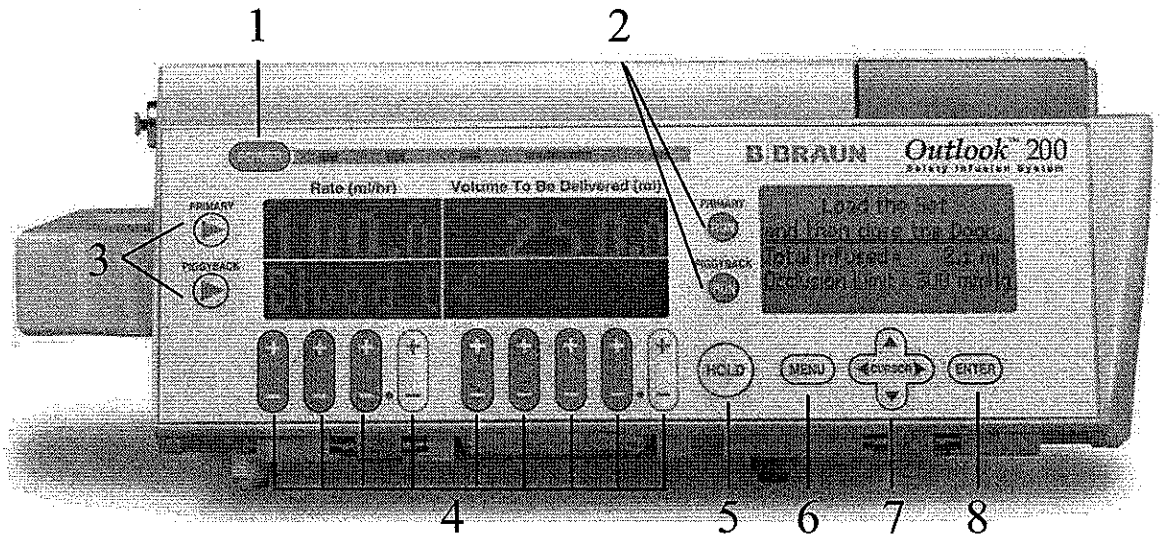
4. **DATA** keys allow input of numbers.

HOLD 5. **HOLD** silences an alarm, stops an infusion,is a quick escape from the menu, and extends the Stop state an additional 3 minutes every time it is pushed.

MENU 6. **MENU** lets the user see other modes and options.

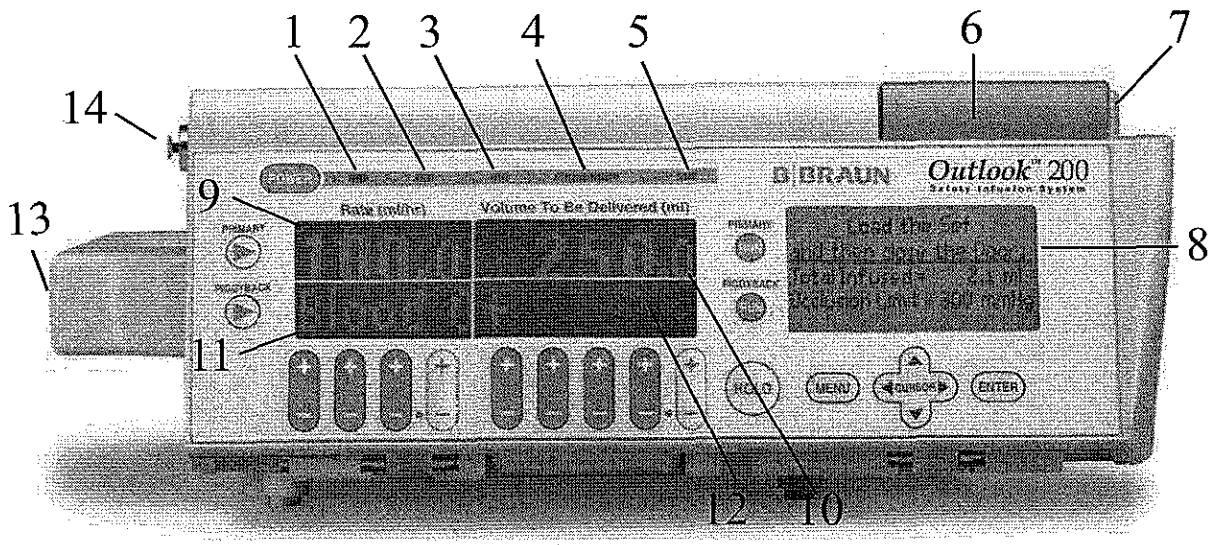
CURSOR 7. **CURSOR** keys move the cursor bar on the Information Screen.

ENTER 8. **ENTER** accepts data or the selection made.



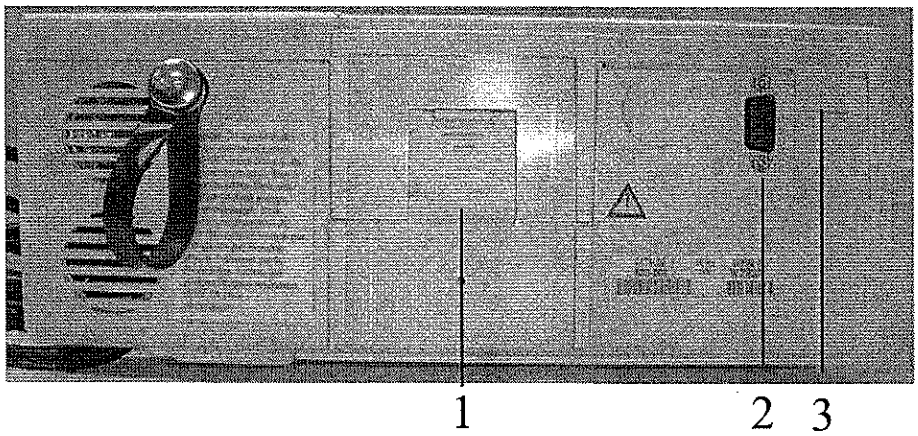
FRONT VIEW

1. AC power indicator
2. Battery Indicator
3. Hold Indicator
4. Run Indicators
5. Alarm Indicator
6. Door Lever
7. Pole Clamp
8. Information Screen
9. Primary Rate Display
10. Primary Volume to Be Delivered Display
11. Piggyback Rate Display
12. Piggyback Volume To Be Delivered Display
13. DoseScan™ Label Scanner
14. Receptacle for optional hand-held Scanner



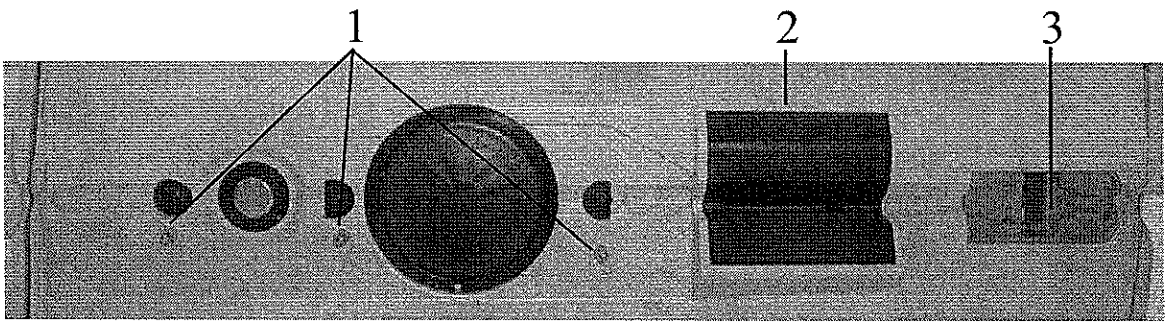
BACK VIEW

1. Daisy Chain Outlet Access Door
2. Serial Communication Data Port
3. Panel Lock Out Switch

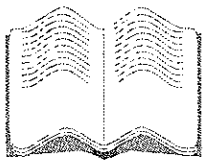


INSIDE THE DOOR VIEW

1. Cassette Alignment Pins
2. Air-In-Line Detector
3. Free Flow Protection Clip Receptacle



CHAPTER 2: BASIC PUMP OPERATION



IN THIS CHAPTER YOU WILL LEARN:

- How to put the pump on a pole.
- How to turn the pump on and off.
- How to Daisy Chain pumps together.
- About battery operation.
- How to prime the set and load the tubing.
- About the five infusion modes of the pump.
- About the four operating states of the pump.

POLE CLAMP OPERATION

1. Press down on the pole clamp lever.
2. Position the pump on the pole (make sure the pole is up against the slot of the pump).
3. Release the pole clamp lever.
4. Lock by rotating the pole clamp lever 1/4 turn toward the back of the pump.
5. To remove the pump from the pole, rotate the pole clamp lever 1/4 turn toward the front of the pump to unlock it, then press down on the pole clamp lever.

TURNING ON THE PUMP

1. Plug the pump into a hospital-grade electrical outlet or the AC Receptacle on the back of another Outlook™ 200 pump.
2. Press **POWER**.

NOTE: The Outlook 200 will perform a self test which ensures proper system operation and alarm reporting. Within this process, the AC Power Indicator will light up, the pump will beep, and the Information Screen will light up. A successful self-test allows safe operation of the device.

DAISY CHAINING

Daisy Chaining allows up to 5 Outlook 200 pumps to be plugged into each other with only one pump plugged into a wall outlet. On the back of each Outlook 200 is the access door to an electrical outlet. Only another Outlook 200 pump should be plugged into that outlet.

ATTENTION: The Daisy Chain outlet is for use with Outlook pumps for the purpose of daisy chaining only. Do not daisy chain more than 5 pumps, as the total leakage current of a system containing more than 5 pumps may exceed 300 uA.

BATTERY OPERATION

The Outlook 200 has been equipped with an internal, rechargeable battery which will power the pump automatically if the plug is disconnected during use. Battery power is provided as a back-up system only, and the length of the battery life is affected by the rate of delivery. Whenever possible, the pump should remain plugged into an electrical outlet. The Battery Indicator will be lit when the pump is operating on its battery.

The pump must remain plugged into a hospital-grade electrical outlet for at least 24 hours to fully recharge the battery from a totally discharged condition.

PRIMING THE TUBING

WARNING: Always read and follow the instructions which accompany the source container and IV administration sets you are using. Carefully follow the instructions for loading, removing and reloading the set.

CAUTION: Administration sets should be changed at an interval not to exceed 72 hours to maintain specified accuracy.

1. Close roller clamp on IV set.
2. Spike IV container and squeeze drip chamber until one-third or one-half full.
3. Prime the IV set by opening the roller clamp and letting fluid flow through the tubing with the cassette inverted (the pointed end of the cassette should be up).
4. Ensure all air is expelled from the cassette and IV tubing, then close the roller clamp.

LOADING THE TUBING

CAUTION: Use only B. Braun Medical Inc. Horizon® Pump IV Sets.

1. Open the door on the front of the pump by pulling the Door Lever forward.
2. Position the cassette over the Cassette Alignment Pins, with the metal disc on the cassette towards the pump.
3. Thread the tubing through the Air-In-Line Detector.
4. Insert and press the Free Flow Protection Clip into the Receptacle.

WARNING: Unrestricted fluid flow may occur if the Free Flow Protection Clip is not properly installed in the Receptacle.

5. Close the door of the pump.
6. Open the roller clamp on the tubing.

NOTE: Do not use a pump with visible damage or with bent, damaged, or missing components.

UNLOADING THE TUBING

1. Press **HOLD** to stop the infusion.
2. Close the roller clamp on the tubing.
3. Open the pump door.
4. Grasp the Free Flow Protection Clip and the tubing on the left hand side of the pump.
5. Gently pull the Free Flow Protection Clip from the Free Flow Protection Clip Receptacle while also pulling the tubing/cassette from the pump. Removing the Free Flow Protection Clip in this manner will automatically stop the flow of fluid in the tubing.
6. If gravity infusion is desired, close the roller clamp, open the Free Flow Protection Clip, and adjust the flow with the roller clamp.

TURNING OFF THE PUMP

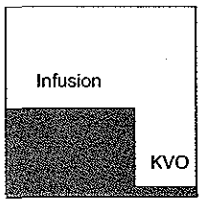
The Outlook™ 200 must be stopped before turning the device off.

1. Press **HOLD** to stop current infusion.
2. Press **POWER**.

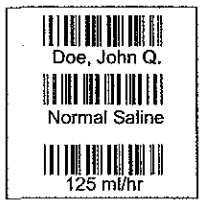
INFUSION MODES

Developed in response to the special needs of all caregivers in the medical setting, the Outlook 200 has five different infusion modes which allow fluid delivery to be tailored to the patient's individual needs.

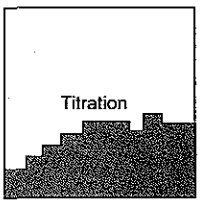
STANDARD Mode delivers a set volume of fluid at a constant rate. At the end of the infusion, the pump automatically switches to Keep Vein Open in order to maintain IV patency. In this mode, a secondary fluid, such as an antibiotic, may be administered using **PIGGYBACK** delivery.



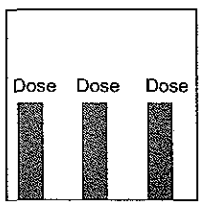
DoseScan™ allows the user to automatically enter all infusion parameters via the Bar Code information provided on the fluid container. Dose Scan will automatically set up the infusion in STANDARD, Piggyback, and DOSE Modes. It will check for an Authorized User ID and ensure the scanned Patient ID matches the ID on the source container.



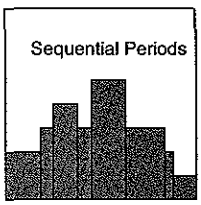
DOSE Mode calculates the concentration, rate, or dose information necessary with many critical drug infusions. The pump contains a library of commonly dosed IV drugs. Titration of the medication rate automatically leads to recalculation of the dosing parameter.



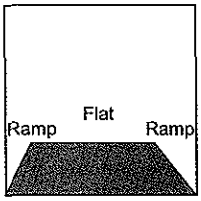
q(*x*) Schedule can be used for the intermittent infusion of antibiotics, chemotherapy, or other IV infusions according to a schedule set by the user. Assure there is a maintenance IV infusion in the intervals between doses.



PROGRAM Mode allows up to 9 periods to be entered. Each period contains its own rate and volume. The pump automatically gives each programmed period one after the other without user intervention.This mode is best suited for Intermittent, Variable, and Circadian infusions.



PROFILE Mode is used primarily for TPN infusions which require a ramping up phase, a flat rate during which the bulk of the infusion is delivered, and a ramp down phase.



PUMP BEHAVIOR

The Outlook™ 200 behaves in any one of the following four ways.

Stop

When **HOLD** is pressed, the infusion stops. Pressing **HOLD** will also silence an alarm and stop the infusion. While in the menu system, pressing **HOLD** will exit the user back to the current mode and stop the infusion (if running).

Run

When the Run Indicators are blinking, the infusion is running at the entered rate. Pressing **PRIMARY RUN** or **PIGGYBACK RUN** will begin an infusion as long as all required parameters are entered. If the RATE or VTBD fields have been left at zero, the pump will alarm and prompt the user to enter a rate or volume to be delivered value.

Alarm

The pump alarms when an error has occurred in the pumping process or when the Hold Time has been exceeded. During an alarm, the pump stops the infusion and an audible alarm sounds, different from the other audible tones of the pump.

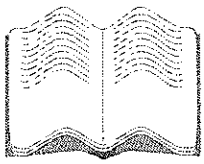
KVO

Keep Vein Open (KVO) allows the pump to transition from its primary infusion to a low delivery rate once the volume to be delivered value goes to zero. The pump will sound a KVO alert tone which is different from the other alarm tones. Pressing **HOLD** will silence the KVO alert tone and stop the infusion. The KVO rates are as follows:

Infusion Rate < 3.0 ml/hr : KVO Rate = last infusion rate

Infusion Rate ≥ 3.0 ml/hr : KVO Rate = 3.0 ml/hr

CHAPTER 3: STANDARD & PIGGYBACK MODES

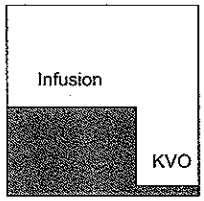


IN THIS CHAPTER YOU WILL LEARN:

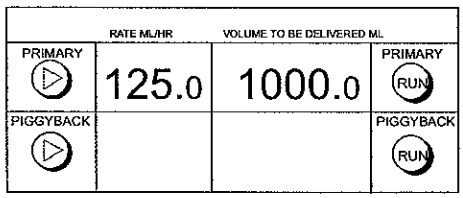
- How to set up a STANDARD (continuous) infusion.
- How to change the rate of an infusion.
- How to change the volume of an infusion.
- How to set up a PIGGYBACK (secondary) infusion.

STANDARD MODE

STANDARD Mode allows for infusion of fluids when rate and volume to be delivered data is entered. At the end of the infusion, the pump automatically switches to Keep Vein Open in order to maintain IV patency. In this mode, secondary fluid, such as an antibiotic, may be administered using a PIGGYBACK method of delivery. Piggyback infusions are allowed only in STANDARD Mode.



1. Press **PRIMARY CHANNEL INDICATOR** ▷.
2. Use the **DATA** keys to enter the rate and volume to be delivered.
3. Press **PRIMARY RUN** to start the infusion. The green Run Indicators will light up.
4. If desired, press the Panel Lock Out Switch on the back of the pump to make the keypanel tamper proof.



> **WARNING:** After pressing **PRIMARY RUN**, make sure drops are falling in the drip chamber. If no drops are falling, make sure the roller clamp is open. If the roller clamp is open and still no drops are falling, remove and throw away the set as it may be defective.

The Time Left, Total Infused, and Occlusion Limit are shown on the Information Screen. Monitor the infusion according to hospital policy. After the infusion is complete, the pump will alarm and go into KVO.

CHANGING THE RATE

With Pump Infusing

1. Press the **DATA** keys to change the rate.
2. Press **ENTER** or **PRIMARY RUN** to confirm new rate.

> **NOTE:** If **ENTER** or **PRIMARY RUN** is not pressed within 4 seconds of entering a new rate, a series of error beeps will occur and the rate change will be cancelled. The pump will then display the message "Rate change aborted," and will continue to infuse at the old rate. An intermittent alarm will continue to sound to notify the user that a rate change has been attempted and cancelled. Pressing any key will silence the alarm.

With Pump Stopped

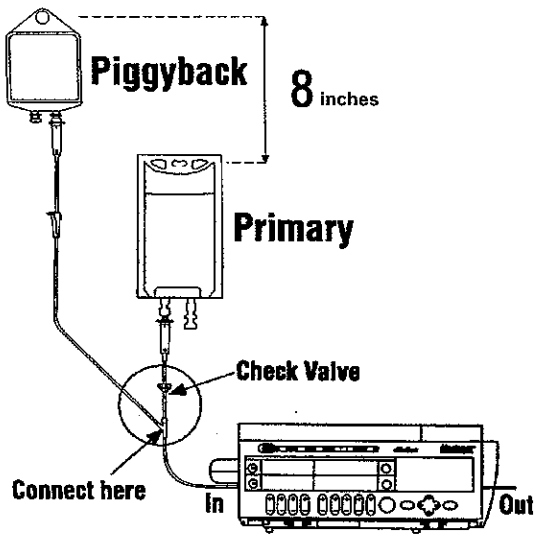
1. Press the DATA keys to change the rate.
2. Press PRIMARY RUN to start the infusion.

CHANGING THE VTBD

With Pump Stopped

1. Press the DATA keys to change the volume to be delivered.
2. Press PRIMARY RUN to start the infusion.

PIGGYBACK MODE



1. Prepare IV fluids according to set package. Use primary sets with check valves.
2. Connect the piggyback set to the upper injection site (the site above the pump) on the primary set.
3. Lower the primary bag at least 8 inches.

NOTE: To minimize or prevent fluid flow from the primary container during a Piggyback infusion (sympathetic flow), it may be necessary to lower the primary bag more than 8 inches or clamp off the primary tubing. Sympathetic flow increases significantly when the Piggyback rate is greater than 125 ml/hr, and clamping the primary tubing is recommended at rates greater than 125 ml/hr.

4. Press PIGGYBACK CHANNEL INDICATOR ▷.
5. Use the DATA keys to enter the piggyback rate and volume to be delivered.

NOTE: To prevent incorrect delivery, the programmed piggyback volume to be delivered must be equal to the amount of fluid in the piggyback container. Piggyback Mode is not intended for the infusion of fluids requiring flushing before or after administration.

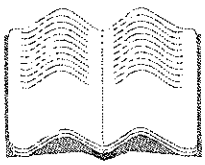
6. Press **PIGGYBACK RUN** to start the infusion.
7. When the VTBD of the Piggyback channel goes to zero, the pump will change back to the Primary channel RATE and VTBD. Make sure the primary tubing is not clamped.

CAUTION: Do not attempt to infuse both primary and piggyback fluids simultaneously using this method; sympathetic flow may result. Use primary sets with check valves.

NOTE: The pump must be stopped to activate Piggyback Mode.

NOTE: If the piggyback container is not empty, the remaining piggyback fluid will be delivered at the Primary channel rate after the pump changes back to the Primary channel.

CHAPTER 4: INFORMATION SCREEN & MENUS



IN THIS CHAPTER YOU WILL LEARN:

- What is displayed on the Information Screen during an infusion.
- About the 3 Menus in the pump.

INFORMATION SCREEN

During an infusion, the Information Screen will display the Time Left and Total Infused.

Time Left

This displays the hours and minutes required to infuse the volume to be delivered at the current rate. As the rate and volume to be delivered are changed, the Time Left will be recalculated.

> NOTE: If the Time Left is greater than 99 hours and 59 minutes, the Information Screen will not display the Time Left =.

Total Infused

This displays the total volume infused in milliliters since the Total Infused value was last cleared. The Total Infused may be cleared while the pump is running. To clear the Total Infused, see "Clear Total Infused" in Chapter 10: Options.

Occlusion Limit

This displays the current Occlusion Limit setting. To change this setting, see "Occlusion Limit" in Chapter 10: Options.

WORKING WITH MENUS

There are three menus in which the special operating modes and other options available in the Outlook™ 200 may be found.

Main Menu

The Main Menu is the first menu to appear when **MENU** is pressed. This menu usually contains the most frequently accessed modes and options.

Alternate Menu

Located second from the bottom of the Main Menu is the Alternate Menu. The Alternate Menu commonly holds items which are less frequently accessed.

Biomed Options Menu

The Biomed Options Menu is located second from the bottom of the Alternate Menu and contains programming information and settings. The Biomed Options Menu requires an access code and is intended to be accessed only by those authorized to change the settings of the device.

1. Press **MENU** to see the Main Menu list of options.
2. Use the **CURSOR** to move the highlight and scroll through the list.
3. If the option desired is not found in the Main Menu, highlight "Alternate Menu," then press **ENTER**.
4. Once you have found the desired mode or option, highlight it and press **ENTER**.

NOTE: To exit the Menus quickly, press HOLD. This will also stop the infusion.

NOTE: To scroll through a Menu a page at a time, press MENU.

The following are modes and options which may be configured to either the Main or Alternate Menus. In some cases, the facility may wish to disable a mode or option; the disabled item would not appear in either the Main or Alternate Menus.

Modes
STANDARD Mode
DOSE Mode
q(x) Schedule
PROGRAM Mode
PROFILE Mode

Options		
Clear Total Infused	Site Trend	Adjust Display
Clear Drug Name	Occlusion Limit	Hold Extender
Check Battery Level	Set Time and Volume	Change Alarm Volume
Piggyback Callback	Schedule Next Run	Calculate BSA
Micro Rate/Limit	Select MAX Pressure	

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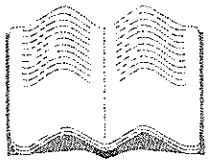
CHAPTER 5: DOSESCAN™



IN THIS CHAPTER YOU WILL LEARN:

•How to set up an infusion using DoseScan.

DOSESCAN™

DoseScan™ activates either the bar code scanner located in the handle of the pump or an optional hand held scanner. Information contained on the bar coded drug label will be used to configure the infusion in STANDARD, Piggyback, or DOSE Mode. The facility has the option to choose if an Authorized User ID and Patient ID are required for data entry. The pump only prompts the user to scan in required information.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

FOR STANDARD MODE & DOSE MODE INFUSIONS

1. Press **MENU**.
2. Use the **CURSOR** to highlight "DoseScan™," then press **ENTER**.

NOTE: If the hand held scanner is used, press the trigger on the scanner after each line is successfully scanned. The scanner will only remain active for 30 seconds. If the scanner turns off, the user will need to reactivate the scanner.

NOTE: SCANNING SEQUENCE:
1) authorized user identification,
2) patient identification, and
3) infusion data information from the infusion container.

NOTE: An audible tone will confirm the data has been accepted with each pass in front of the DoseScan scanner.

3. Scan Authorized User identification.
4. The Information Display will ask if this is a new patient. Use the **CURSOR** to highlight either "YES" or "NO", then press **ENTER**.
5. Scan Patient identification.
6. Scan Patient identification information on the medication label.
7. Scan the IV medication data on the medication label. The infusion data will be displayed on the Information Display.
8. Review the data, highlight "ACCEPT", then press **ENTER**.
9. Press **RUN** to start the infusion.

FOR PIGGYBACK INFUSIONS

1. Scan in Primary Infusion data as directed above.
2. Press PIGGYBACK CHANNEL INDICATOR ▷.
3. Press MENU.
4. Use the CURSOR to highlight "DoseScan™," then press ENTER.
5. Follow steps 4-8 in STANDARD & DOSE Mode Infusions above to scan in the Piggyback infusion data.
6. Press PIGGYBACK RUN.

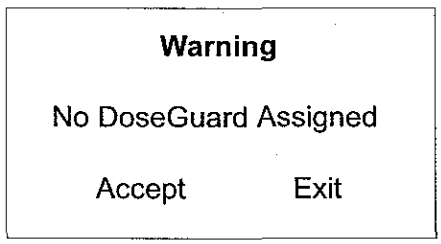
DOSEGUARD™ MATCHING

DoseScan feature provides the clinician the ability to assign DoseGuard™ dose limits to scanned medications. For more information on DoseGuard, refer to "DoseGuard™ in DOSE Mode" on page 34.

If the DoseGuard Matching feature is turned ON under DoseScan options in the BIOMED menu, scanned medications will be compared with those medications configured in the drug library. If DoseGuards are assigned to those medications, the dose limits or drug categories will be displayed for selection and assignment.

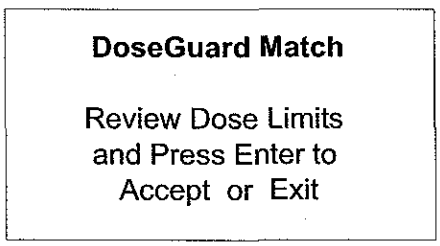
If the scanned drug is not contained in the drug library or there are no DoseGuards assigned, the following screen will be displayed.

- Choosing "Accept" will accept the scanned data without DoseGuard protection.
- Choosing "Exit" will reject all the scanned data.

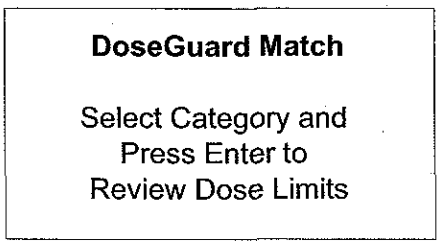


If, however, the scanned drug matches the name and dose units of a medication configured, one of the following notification messages will be displayed.

This message will be displayed if the scanned drug matches a medication in a configured category.

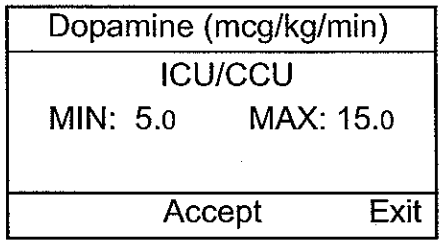


This message will be displayed if the scanned drug matches a medication configured in more than one category.

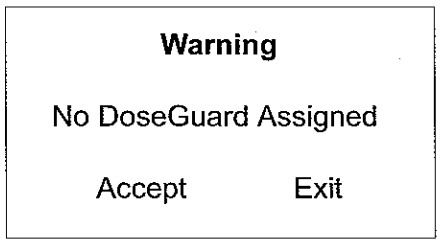


Single Category Match

If the scanned drug matches a medication configured in one category, the category, drug name, and dose limits will be displayed for selection by the clinician. A screen similar to the following will be displayed.

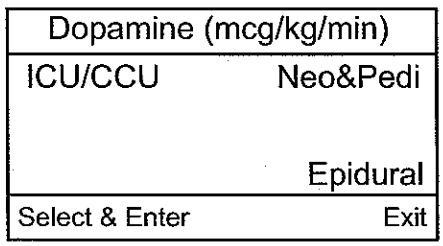


- Choosing "Accept" will assign the programmed DoseGuards to the scanned medication.
- Choosing "Exit" will generate the notification message shown.



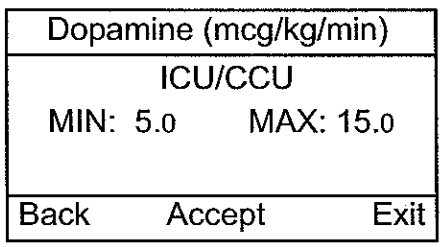
Multiple Category Match

If the scanned drug matches a medication configured in multiple categories, the categories will be displayed for viewing and selection. A screen similar to the one shown will be displayed.
Use the CURSOR to highlight the appropriate category, then press ENTER.

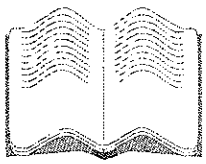


Once a category is selected, the clinician has the ability to "Accept" or "Exit" as described in the Single Category Match.

The clinician also has the option to go "Back" to choose another category as shown in the example screen.



CHAPTER 6: DOSE MODE

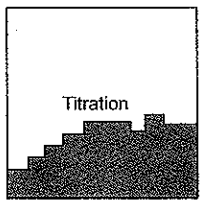


IN THIS CHAPTER YOU WILL LEARN:

- How to begin a DOSE Mode infusion.
- How to change the dose and have the rate automatically calculated.
- How to change the dosage, concentration and body weight units.
- About cautions and warnings for giving epidural drugs in DOSE Mode.
- What the DoseGuard™ default parameters are.

DOSE MODE

DOSE Mode calculates the concentration, rate, or dose information necessary with many critical drug infusions. This data may include infusion specific parameters such as patient weight, drug dosage, and drug concentrations. Titration of the medication automatically leads to recalculation of the dosing parameter. The pump contains a library of commonly dosed IV drugs which may be customized into area specific categories and concentrations.



DOSE Mode may be used with or without a drug name label. Displaying the drug name, rate, and dose allows the user to view valuable information. As a safety precaution, DOSE Mode cannot be used with any other operating modes. The user must accept all data entries prior to beginning an infusion.

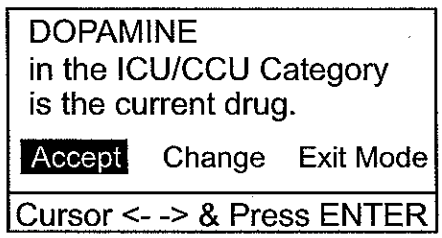
NOTE: DOSE Mode is a calculation and labeling feature only. Physician orders will always govern the appropriate patient dosage.

NOTE: DOSE Mode may be placed in either the Main or Alternate Menus.

1. Press **HOLD**.
2. Press **MENU**.
3. Use the **CURSOR** to highlight "DOSE Mode," then press **ENTER**.

One of two screens will appear, depending on whether or not DOSE Mode was used previously.

If the pump had the DOSE Mode used previously, a screen similar to the following may appear:

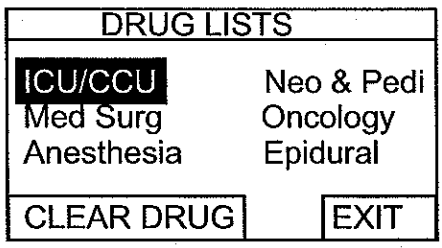


TO ACCEPT THE CURRENT DRUG

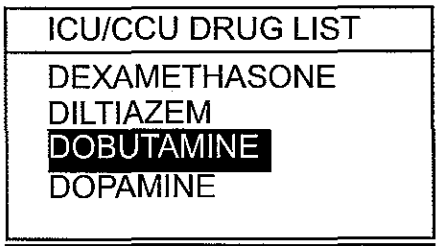
1. Use the **CURSOR** to highlight "Accept," then press **ENTER**.
2. See "DATA ENTRY SCREEN."

TO CHANGE TO A DIFFERENT DRUG

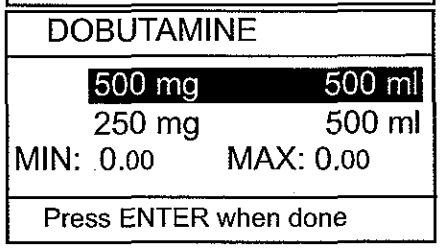
1. Use the **CURSOR** to highlight "Change," then press **ENTER**.
2. Use the **CURSOR** to highlight the Drug Category desired, then press **ENTER**.



3. Use the CURSOR to highlight the desired drug name and dosage units, then press ENTER.



4. Use the CURSOR to highlight the desired concentration, then press ENTER.
5. See "DATA ENTRY SCREEN."



NOTE: No data entry can be done on this screen. The concentration may be changed later: see DATA ENTRY SCREEN.

NOTE: Changing to a different drug can also be performed from the DATA ENTRY SCREEN; see "TO CHOOSE A DIFFERENT DRUG" on page 32.

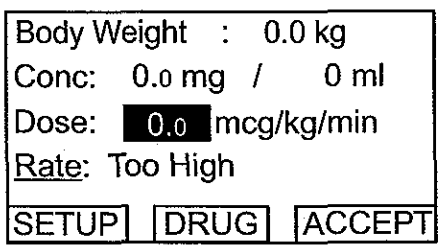
TO CLEAR THE CURRENT DRUG

1. Use the CURSOR to highlight "Change", then press ENTER.
2. Use the CURSOR to highlight "CLEAR DRUG," then press ENTER.
3. See "DATA ENTRY SCREEN."

NOTE: For drugs not appearing on the list, clear the drug name and just use the DATA ENTRY SCREEN.

If this is a new pump or a pump recently serviced by Biomedical Services, a screen similar to the following may appear.

1. Use the CURSOR to highlight "DRUG," then press ENTER.
2. Follows steps 2-4 in To Change To A Different Drug above, then press ENTER.
3. See "DATA ENTRY SCREEN."



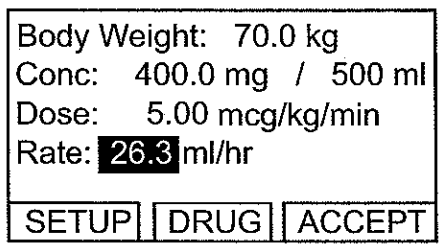
DATA ENTRY SCREEN

The DATA ENTRY SCREEN is the "worksheet" into which the dosing parameters are entered. The fields to be completed will include concentration, dose and units, rate, and may include height and/or weight. All fields may be changed when this screen is active.

> NOTE: Concentration, dose, and rate are dependent on each other for their numeric values. Specifying the amount of two of the parameters causes the third parameter to be calculated.

1. Use the **CURSOR** to highlight the field to be completed.
2. Use the **DATA** keys to enter data.
3. Press **CURSOR** key to move to the next field.

Example:
Specifying a weight of 70 kg, a concentration of 400 mg of Dopamine in 500 ml of fluid at a dose of 5.0 mcg/kg/min results in a calculated rate of 26.3 ml/hr.



4. Use the **CURSOR** to highlight "ACCEPT," then press **ENTER**.
5. Press **PRIMARY RUN** to begin the infusion.

> NOTE: Concentration, Dose, and Rate are dependent on each other for their numeric values. Specifying the amount of two parameters causes the third parameter to be calculated. Either the Concentration (Conc), Dose, or Rate parameter is calculated. Rate is the parameter calculated unless another parameter is chosen.

TO CHOOSE ANOTHER PARAMETER TO BE CALCULATED

1. Use the left **CURSOR** to highlight the parameter to be calculated (Conc, Rate, or Dose).
2. Press the right **CURSOR**. An underline will appear under the parameter to be calculated.
3. Use the **DATA** keys to enter data in all other required fields.
4. Press **CURSOR** key to move to the next field.

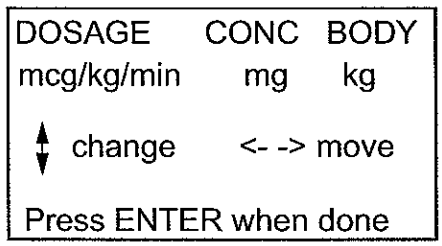
TO CHOOSE A DIFFERENT DRUG

1. Use the **CURSOR** to highlight "DRUG" then press **ENTER**.
2. Follow steps 2-5 in "To Change To A Different Drug" above.

TO CHANGE UNITS ON THE DATA ENTRY SCREEN

Critical medications require units for calculation of doses, for example mcg/mg/min. Three categories of units are Dosage, Concentration (Conc), and Body. Each of these can be independently selected and changed. Match the dosage and concentration as ordered by the physician.

1. Use the **CURSOR** to highlight "SETUP," then press **ENTER**.
2. Use the left and right **CURSOR** keys to highlight the parameter to be changed.
3. Use the up and down **CURSOR** keys to change the parameter.
4. Press **ENTER**.



CHANGING DOSE MODE RATE

The rate may be titrated while the pump is infusing.

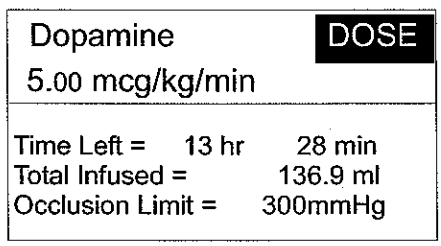
1. Use the **DATA** keys to change the rate. The dose will be recalculated depending on the new rate entered.
2. Press **ENTER** or **PRIMARY RUN** to confirm the new rate and dose and begin the infusion.

NOTE: If **ENTER** or **PRIMARY RUN** is not pressed within 4 seconds of entering a new rate and dose, a series of error beeps occurs and the rate/dose change is cancelled. The pump then displays the message "Rate change aborted," and continues to infuse at the old rate. An intermittent alarm continues to sound to notify the user a rate change was attempted and cancelled. Pressing any key will silence the alarm.

CHANGING DOSE MODE DOSE

The dose can be titrated while the pump is infusing.

1. Use the **CURSOR** to highlight the DOSE field in the upper right corner of the Information Screen, then press **ENTER**.
2. On the DATA ENTRY SCREEN, use the **CURSOR** to highlight the Dose field.
3. Use the **DATA** keys to change the dose, then press **ENTER**.
4. Use the **CURSOR** to highlight "ACCEPT," then press **ENTER**. The rate will be recalculated depending on the new dose entered.



EPIDURAL IN DOSE MODE

When the Epidural category from the Drug List is selected, the following screen will appear:

Pressure will be set to 750 mmHg, and MicroRate will be enabled.
Use Sets labeled for Epidural use only.

CAUTION: Whenever a pump is used for epidural infusion, the pump's secondary features should not be used.

CAUTION: To prevent inadvertent infusion of drugs which are not indicated for epidural use, only Horizon® micro-bore administration sets without injection sites are specified for epidural administration of drugs.

WARNING: Serious injury to the patient may result from epidural administration of drugs other than those specifically labeled for epidural use.

DOSEGUARD™ IN DOSE MODE

The Outlook™ 200 is equipped with a special feature which alerts the caregiver when a dosed infusion is being set outside the infusion parameters specified by the institution. When the user attempts to validate the Data Entry Screen, the pump will compare the entered dosage, height, and weight values against the infusion parameter minimum and maximum. If the values are outside of the set parameters, a pop-up screen will appear with a message:

This value is outside of the allowable dosage limits?
Continue?
NO YES

After checking that the entered parameters are correct, the caregiver may then select "YES" to confirm the data and proceed with the infusion.

NOTE: If either dosage or concentration units have been changed in the Set Up Screen (see "**TO CHANGE UNITS ON THE DATA ENTRY SCREEN**"), and are not compatible with the currrent dosing units, then Drug Name and DoseGuard™ will be disabled.

EXITING DOSE MODE

1. Press MENU.
2. Use the CURSOR to highlight "Exit DOSE Mode," then press ENTER.

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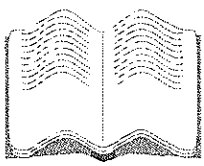
CHAPTER 7: q(x) SCHEDULE

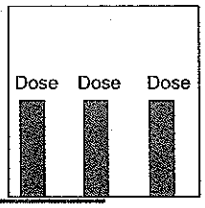


IN THIS CHAPTER YOU WILL LEARN:

•How to set up a q(x) (Intermittent) infusion.

q(x) SCHEDULE

q(x) Schedule can be used for the intermittent infusion of antibiotics, chemotherapy, or other IV infusions. The user inputs the total number of doses, the amount per dose, and the interval between doses.



NOTE: q(x) Schedule may only be entered when the pump is stopped in STANDARD Mode.

NOTE: q(x) Schedule may be found in either the Main or Alternate Menus, or may have been disabled and therefore unavailable.

Since there is no KVO between doses, assure there is a maintenance IV infusion in the intervals between doses.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "q(x) Schedule," then press **ENTER**.
3. Use the **CURSOR** to highlight "OK," then press **ENTER**.
4. Use the **CURSOR** to highlight the Dose q(x) fields.
5. Use the **DATA** keys to enter the time interval, in hours and minutes, between the start of each dose.

DOSE q(x) 06 hr 00 min
#Doses = 4
Dose Rate = 125.0 ml/hr
Dose Vol = 75 ml
Press ENTER when done

NOTE: The time interval can be 1 to 24 hours. There must be at least 15 minutes between each dose.

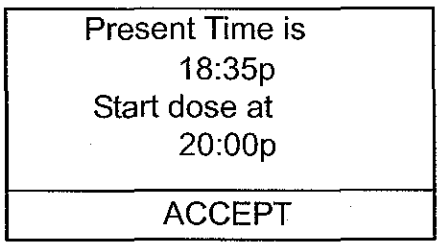
6. Use the **CURSOR** to highlight the #Doses field.
7. Use the **DATA** keys to enter the total number of doses to be delivered.

NOTE: The total number of doses may not exceed 40.

8. Use the **CURSOR** to highlight the Dose Rate field.
9. Use the **DATA** keys to enter the rate at which each dose is to be administered.
10. Use the **CURSOR** to highlight the Dose Vol field.
11. Use the **DATA** keys to enter the volume to be delivered for each dose.

NOTE: The Dose Volume for each dose has to be greater than 1 ml, but not more than 2000 ml.

12. Press ENTER.
13. Check the Present Time. If it is incorrect, use the up CURSOR to highlight the Present Time is field.
14. Use the DATA keys to enter the correct present time **in military format**. Use 00:00 to represent midnight and 12:00 to represent noon.
15. Use the CURSOR to highlight the Start dose at field.
16. Use the DATA keys to enter the time, **in military format**, at which the first dose will begin.
17. Use the CURSOR to highlight "ACCEPT," then press ENTER.



At the q(x) Start time, the pump will begin the infusion. The number of doses remaining is shown on the Information Display. After the infusion is complete, the pump will automatically return to the waiting period. The pump will continue to "infuse and wait" for the total number of doses entered.

NOTE: After pressing ENTER, the pump goes into a waiting period. "Schedule Delay" shows on the Piggyback channel Display. No fluid is infusing during this waiting period.

NOTE: A "q(x) Schedule Overlap" message appears when doses entered are not at least 15 minutes apart. When this occurs, q(x) Schedule must be exited to cancel the present infusion regimen.

TO CHANGE THE DATA

1. Use the CURSOR to highlight the DATA field in the upper right corner of the Information Screen, then press ENTER.
2. Follow steps 4-17 above to change the data.

NOTE: Only the Dose Rate may be changed after the q(x) Schedule has begun.

EXITING q(X) SCHEDULE

1. Press MENU.
2. Use the CURSOR to highlight "Exit q(x) Schedule,", then press ENTER.

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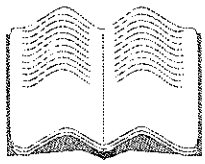
CHAPTER 8: PROGRAM MODE

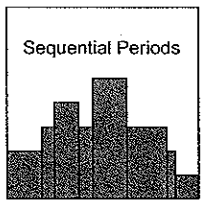


IN THIS CHAPTER YOU WILL LEARN:

- How to set up a PROGRAM Mode infusion.
- How to clear periods.
- How to review and change a PROGRAM.
- How to restart PROGRAM Mode.
- How to skip periods.

PROGRAM MODE

This mode is for infusions requiring a non-standard delivery pattern. PROGRAM Mode allows up to 9 periods to be entered. Each period contains its own rate and volume. The pump automatically gives each programmed period, one after the other.



NOTE: PROGRAM Mode may only be entered when the pump is stopped in STANDARD Mode.

NOTE: PROGRAM Mode may be found in either the Main or Alternate Menus, or may have been disabled and therefore unavailable.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "PROGRAM Mode," then press **ENTER**.
3. Use the **DATA** keys to enter the rate and volume for the first period.
4. Use the down **CURSOR** to highlight the next Rate and Volume fields.
5. Use the **DATA** keys to enter the rate and volume.
6. Repeat steps 4 and 5 until all of the infusion information is entered.

Pd.	Rate	Volume	
1	50.0	100.0	
2	100.0	200.0	
3	75.0	50.0	ZERO
ACCEPT		TOT = 350.0 ml	

NOTE: If less than 9 steps of infusion information entered, the last line of data will always be zero. The total volume infused will be displayed.

7. Use the **CURSOR** to highlight "ACCEPT TOT=," then press **ENTER**.
8. Press **PRIMARY RUN**.

NOTE: The pump will begin infusing the Period 1 volume at the Period 1 rate. The pump will then go to Period 2 and so forth without user intervention.

NOTE: ACCEPT cannot be selected when 0 data is present in the **middle** of a program. For example, Pd. 1 and 3 may have data, but Pd. 2 is zeros. The pump will not allow ACCEPT to be selected with zero values in the middle of the program.

9. Use the **CURSOR** to highlight the GRAPH field in the upper right corner of the Information Screen, then press **ENTER**. A graph of the infusion will be displayed.

> NOTE: Each period is represented by a vertical bar which fills as the fluid is infused. The height of the bar represents the rate of infusion in that particular period. The period presently being infused is displayed in the upper left corner. If the vertical bar appears to be missing, the rate in that period is much less compared to the other periods.

10. Use the **CURSOR** to highlight the TEXT field in the upper right corner of the Information Screen, then press **ENTER**. The text display will return.
11. If the pump is turned off while in PROGRAM Mode, the Information Display will indicate "PROGRAM Operation was Interrupted" when the pump is turned back on. Use the **CURSOR** to highlight one of the following, then press **ENTER**.
    - Resume current PROGRAM
    - Restart PROGRAM
    - Exit PROGRAM Mode

CLEARING PERIODS

The periods in PROGRAM Mode may be cleared.

1. Use the **CURSOR** to highlight ZERO at the end of the period line to be cleared then press **ENTER**.
2. Repeat step 1 until all periods are cleared.

REVIEW/CHANGE PROGRAM

> NOTE: Program Volumes cannot be changed after PROGRAM Mode has been started.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "Review/Change PROGRAM," then press **ENTER**.
3. Use the **CURSOR** to highlight the Rate field of the period to be changed.
4. Use the **DATA** keys to enter the new rate.
5. Use the **CURSOR** to highlight "ACCEPT," then press **ENTER**.

RESTART PROGRAM

> NOTE: Choosing Restart PROGRAM will cancel the present infusion and the pump will begin infusing at Period 1 again.

1. Press **HOLD**.
2. Press **MENU**.
3. Use the **CURSOR** to highlight "Restart PROGRAM," then press **ENTER**.
4. A screen will appear with the message: The "Restart PROGRAM" option will cancel the present run. Is this OK? Use the **CURSOR** to highlight "YES," then press **ENTER**.

SKIP PROGRAM PERIODS

This option allows a portion (volume) of the mode to be skipped. The pump must be stopped in order to skip periods.

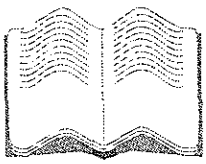
1. Press **HOLD**.
2. Press **MENU**.
3. Use the **CURSOR** to highlight "Skip PROGRAM Periods," then press **ENTER**.
4. Use the **DATA** keys to enter the volume to be skipped, then press **ENTER**.
5. Press **PRIMARY RUN**.

EXITING PROGRAM MODE

The infusion must be stopped in order to exit PROGRAM Mode.

1. Press **HOLD**.
2. Press **MENU**.
3. Use the **CURSOR** to highlight "Exit PROGRAM Mode," then press **ENTER**.
4. A screen may appear with the message: The "Exit PROGRAM Mode" option will cancel the present run. Is this OK? Use the **CURSOR** to highlight "YES," then press **ENTER**.

CHAPTER 9: PROFILE MODE



IN THIS CHAPTER YOU WILL LEARN:

- How to set up a PROFILE Mode (or TPN) infusion.
- How to set the PROFILE Parameters.
- How to review, change, or restart PROFILE Mode.
- About the Immediate Ramp Down feature.

PROFILE MODE

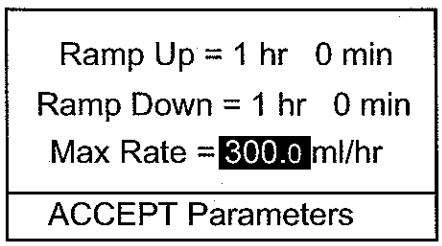
The PROFILE Mode is designed to deliver infusions with gradual ramp up and taper down rates. The pump automatically calculates the rate increase and decrease required to match the total volume, time and ramp up / ramp down time parameters. First the PROFILE Parameters must be set, then PROFILE Mode can be accessed.

NOTE: PROFILE Mode may only be entered when the pump is stopped in STANDARD Mode.

NOTE: PROFILE Mode and Set PROFILE Parameters may be found in either the Main or Alternate Menus, or may have been disabled and therefore unavailable.

SET PROFILE PARAMETERS

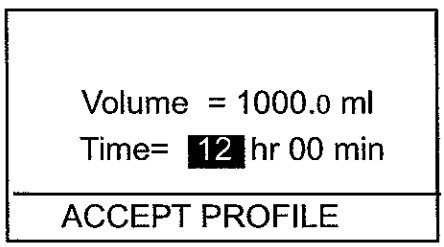
1. Press **MENU**.
2. Use the **CURSOR** to highlight "Set PROFILE Parameters," then press **ENTER**.
3. Use the **DATA** keys to enter the Ramp Up time in hours and minutes.
4. Use the **CURSOR** to highlight the Ramp Down fields.
5. Use the **DATA** keys to enter the Ramp Down time in hours and minutes.
6. Use the **CURSOR** to highlight the Max Rate field.
7. Use the **DATA** keys to enter the maximum rate at which the Profile infusion may run.
8. Use the **CURSOR** to highlight "ACCEPT Parameters," then press **ENTER**.



NOTE: The minimum Ramp time is 10 minutes; the maximum Ramp time is 2 hours. The maximum Max Rate is 400 ml/hr.

PROFILE MODE

1. Press **MENU**.
2. Use the **CURSOR** to highlight "PROFILE Mode," then press **ENTER**.
3. Use the **DATA** keys to enter the total volume of the infusion.
4. Use the cursor to highlight the Time field.
5. Use the data keys to enter the total time of the infusion.
6. Use the **CURSOR** to highlight "ACCEPT PROFILE," then press **ENTER**.
7. Press **PRIMARY RUN**.
8. The GRAPH field in the upper right corner of the Information Screen is highlighted; press



ENTER. A graph of the infusion will be displayed.

9. The TEXT field in the upper right corner of the Information Screen is highlighted; press ENTER. The text display will return.
10. If the pump is turned off while in PROFILE Mode, the Information Display will indicate "PROFILE Operation was Interrupted" when the pump is turned back on. Use the CURSOR to highlight one of the following, then press ENTER.
    - Resume current PROFILE
    - Restart PROFILE
    - Exit PROFILE Mode

REVIEW/CHANGE PROFILE

1. Press MENU.
2. Use the CURSOR to highlight "Review/Change PROFILE," then press ENTER.
3. Use the CURSOR to highlight the Volume field.

> NOTE: The PROFILE Volume cannot be changed after PROFILE Mode has been started.

4. Use the DATA keys to enter the new volume.
5. Use the CURSOR to highlight the Time field.
6. Use the DATA keys to enter the new time.
7. Use the CURSOR to highlight "ACCEPT PROFILE," then press ENTER.

RESTART PROFILE

> NOTE: Choosing Restart PROFILE will cancel the present infusion and the pump will begin at the beginning of the Profile run.

1. Press HOLD.
2. Press MENU.
3. Use the CURSOR to highlight "Restart PROFILE," then press ENTER.
4. A screen will appear with the message: The "Restart PROFILE" option will cancel the present run. Is this OK? Use the CURSOR to highlight "YES," then press ENTER.

IMMEDIATE RAMP DOWN

1. Press HOLD.
2. Press MENU.
3. Use the CURSOR to highlight "Immediate Ramp Down," then press ENTER.

IMMEDIATE RAMPDOWN is displayed on the Information Screen.

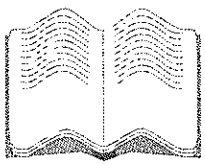
> NOTE: The Immediate Ramp Down Time is 30 minutes or less.

EXITING PROFILE MODE

The infusion must be stopped in order to exit PROFILE Mode.

1. Press HOLD.
2. Press MENU.
3. Use the CURSOR to highlight "Exit PROFILE Mode," then press enter.
4. A screen may appear with the message: The "Exit PROFILE Mode" option will cancel the present run. Is this OK?
5. Use the CURSOR to highlight "YES," then press ENTER.

CHAPTER 10: OPTIONS



IN THIS CHAPTER YOU WILL LEARN:

- How to lock out the pump key pad.
- How to clear the Total Infused.
- How to change the Occlusion Limit.
- About the Occlusion Warning feature of the pump.
- How the pump can calculate the rate when given the time and volume.
- How to delay the beginning of an infusion.
- How to rate limit the pump for Micro operation.
- About Site Trending.
- How to put the pump on hold for up to two hours.
- How to adjust the alarm volume.
- How the pump can calculate a patient's Body Surface Area.
- How to set the pump to its Maximum Pressure of 750 mmHg.
- How to adjust the brightness of the Information Screen.
- How to check the battery level.
- What Piggyback Callback is.
- What Epidural is.
- How to set up the pump for Monitor Docking

OPTIONS

The Outlook™ 200 offers other features which allow the pump to be customized to each patient's particular needs.

NOTE: These features may be found in either the Main or Alternate Menus, or may have been disabled and therefore unavailable.

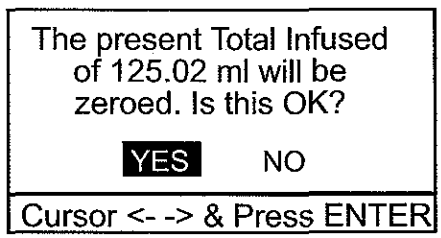
PANEL LOCK OUT SWITCH

This option allows the keypad to be deactivated. While Panel Lock Out is activated, **no** keys are functional.

1. While the pump is infusing, press the Panel Lock Out Switch on the back of the pump.
2. To unlock the keypad, press the Panel Lock Out Switch again.

CLEAR TOTAL INFUSED

1. Press **MENU**.
2. Use the **CURSOR** to highlight "Clear Total Infused," then press **ENTER**. The Total Infused value will be displayed. The Information Screen will display a message asking if the Total Infused should be cleared.
3. Use the **CURSOR** to highlight "YES," then press **ENTER**.



NOTE: The Total Infused may be cleared while the pump is infusing.

OCCLUSION LIMIT

This feature allows the user to change the occlusion limit to 75, 100, 200, 300, 400, or 500 mmHg. The Occlusion Limit is a threshold value.

CAUTION: The higher the pressure limit, the less sensitive the pump is to changes in fluid resistance which may be caused by positional IVs or infiltrations. High pressure limits can increase the severity of an infiltration without an alarm condition.

1. Press **HOLD** to stop the infusion.
2. Press **MENU**.
3. Use the **CURSOR** to highlight "Occlusion Limit," then press **ENTER**.

4. Use the **DATA** keys to change the occlusion limit value.
5. Press **ENTER**.

EXAMPLE
If the Occlusion Limit is set to 300mmHg, the pump will infuse at the lowest pressure possible but will alarm if the pressure required to infuse the IV fluid rises above the 300mmHg value.

NOTE: A gravity infusion of D5W with the IV container 3 feet above the IV site is approximately 75 mmHg.

NOTE: The Occlusion Limit will automatically change to 400 mmHg to accommodate fluid resistance at rates greater than 400 ml/hr.

OCCLUSION WARNING

The occlusion warning feature gives an audible warning (3 beeps) and a visual indication in the Volume To Be Delivered Display to let the user know an occlusion is occurring downstream from the pump. The warning occurs 6 times at 5 second intervals before the pump alarms "Occlusion." If the occlusion is cleared before alarming, the warning tones will stop and the infusion will continue.This feature is designed to alert the user of downstream resistance before an alarm occurs which stops the infusion.

During an occlusion warning, inspect the downstream tubing for kinks or closed clamps. Remove the kinks or open the clamps and the warning tones will stop.

NOTE: The Occlusion Warning option must be turned on in the Biomed Menu by an authorized person.

SET TIME AND VOLUME

This option calculates the rate of the infusion when the infusion time and volume are entered.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "Set Time and Volume," then press **ENTER**.
3. Use the **CURSOR** to highlight Time= "hr" or "min"
4. Press **DATA** keys to enter the correct hours and/or minutes.
5. Use the **CURSOR** to highlight Volume= field.
6. Use the **DATA** keys to enter the volume.
7. Use the **CURSOR** to highlight "ACCEPT", then press **ENTER**.

Set Time and Volume
Rate = 75.0 ml/hr Time = 01 hr 40 min Volume = 125.0 ml
ACCEPT

SCHEDULE NEXT RUN

This feature lets the user delay an infusion from STANDARD, PIGGYBACK, DOSE, PROGRAM, or PROFILE Mode for up to 24 hours.

> NOTE: All of the Mode information must be entered and a set must be in the pump before accessing this feature.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "Schedule Next RUN", then press **ENTER**.

TO CHANGE THE TIME

1. Use the **CURSOR** to highlight the Time is field.
2. Use the **DATA** keys to set the correct time (in military time).

Schedule Next RUN
Time is 12:30p Delay 02 hr 00 min Start at 14:30p
ACCEPT 02H 00 M DELAY

TO CHANGE THE DELAY

1. Use the **CURSOR** to highlight the Delay "hr" or "min" fields.
2. Use the **DATA** keys to set the hours and minutes.

TO CHANGE THE START TIME

> NOTE: The time is displayed in military time. Use 00:00 to represent midnight and 12:00 to represent noon.

1. Use the **CURSOR** to highlight Start at fields.
2. Use the **DATA** keys to change the start time.
3. Use the **CURSOR** to highlight "ACCEPT XXH XXM DELAY", then press **ENTER**.

The information is displayed on the Information Screen, "Delay" is shown, and the yellow Hold LED will blink. Press **HOLD** to cancel Schedule Next RUN.

MICRO RATE/LIMIT

This option is useful in environments where low rates are critical. For patient safety, the maximum rate limit can be set from 5.0 ml/hr to 99.9 ml/hr.

NOTE: If the pump is turned on with Micro Rate/Limit activated, a teddy bear symbol shows on the Information Display for 4 seconds.

1. Press **HOLD** to stop the infusion.
2. Press **MENU**.
3. Use the **CURSOR** to highlight "Micro Rate/Limit," then press **ENTER**.
4. Use the **CURSOR** to highlight "ON."
5. Use the down **CURSOR** to highlight the Rate Limit field.
6. Use the **DATA** keys to enter the maximum rate the pump will be allowed to run.

NOTE: If a rate currently exists in a mode that is higher than the Micro Rate/Limit set, an audible signal occurs. The user will need to either exit Micro Rate/Limit and lower the offending rate, or increase the Micro Rate/Limit.

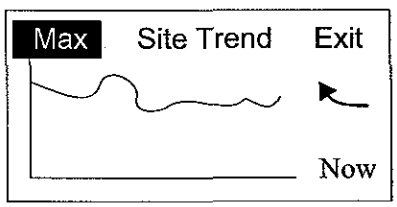
7. Press **ENTER**. MICRO will appear in the upper left corner of the Information Display.

To Exit Micro Rate/Limit

1. Press menu.
2. Use the **CURSOR** to highlight "Micro Rate/Limit," then press **ENTER**.
3. Use the **CURSOR** to highlight "Off," then press **ENTER**.

SITE TREND

Site Trend graphically displays the resistance to downstream fluid flow for three intervals of time: 10 min, 1 Hr and 2 Hr.



1. Press **MENU**.
2. Use the **CURSOR** to highlight "Site Trend," then press **ENTER**.

NOTE: Data is shown from right to left. The word "Now" reinforces the most current data is represented on the right side of the graph. The arrow's position, whether pointing upward or downward, indicates either an increase or a decrease in the downstream fluid resistance.

TO CHANGE GRAPHICAL RESOLUTION

1. Press the up and down **CURSOR** to change from Min, Med or Max resolution.

> NOTE: Max is the default setting. Max displays more data points compressed along the horizontal axis for a representation of a long- term trend. Min displays less data points in the same area for a short-term trend.

TO EXIT SITE TREND

1. Use the **CURSOR** to highlight "Exit," then press **ENTER**.

HOLD EXTENDER

Hold Extender allows the user to pause the infusion for up to 2 hours. Once the timer goes down to zero, the pump will alarm to notify the user the infusion must either be started or put on hold again.

1. Press **HOLD** to stop the infusion
2. Press **HOLD** again. This will put the pump on hold for 3 minutes. Each additional press of **HOLD** will add another 3 minutes onto the Delay time.

OR

1. Press **HOLD**.
2. Press **MENU**.
3. Use **CURSOR** to highlight "Hold Extender," then press **ENTER**.
4. Use the **DATA** keys to enter the hold time.

"Hold" is displayed in the Rate Display.

- Press **RUN** to cancel the hold extender and begin infusing.
- Press **ENTER** to cancel the hold extender and return to the standard 3 minute hold.
- Press **MENU** to cancel the hold extender and access the menu system.

CHANGE ALARM VOLUME

The volume of the pump alarm can be changed to low, medium, or high.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "Change Alarm Volume," then press **ENTER**.
3. Use the up and down **CURSOR** to highlight "Low," "Medium," or "High."
4. Press **ENTER** to confirm the new volume setting.

CALCULATE BSA

This option is used to calculate a patient's Body Surface Area (BSA).

1. Press MENU.
2. Use the CURSOR to highlight "Calculate BSA", then press ENTER.

> NOTE: Height can be measured in centimeters (cm) or inches (in). Weight can be measured in grams (g), kilograms (kg) or pounds (lb). The height and weight parameters are changed by pressing the CURSOR to select the parameter and pressing the up or down CURSOR.

3. Use the CURSOR to select Ht and Wt fields.
4. Use the DATA keys to enter the information.
5. To change the Ht and Wt units, use the left and right CURSOR to highlight the units, and the up and down CURSOR to change the units.
6. The BSA value is displayed
7. Press ENTER to exit

Calculate BSA
Ht= 0.0 cm Wt= 70.0 kg
BSA = 0.00 m^2
Press ENTER when done

SELECT MAX PRESSURE

The Outlook 200 can be used for epidural administration of anesthetic and analgesic drugs. Use this feature when the maximum pressure of 750 mmHg is required for infusion.

1. Press HOLD to stop the infusion.
2. Press MENU.
3. Use the CURSOR to highlight "Select MAX Pressure," then press ENTER.

The Occlusion Limit is now set to 750 mmHg. To change the Occlusion Limit from 750 mmHg, turn the pump off and then on again, or See "Occlusion Limit" to change the value.

ADJUST DISPLAY

If the Information Screen is difficult to read, selecting Adjust Display will allow the user to change the contrast of the screen.

1. Press MENU.
2. Use the CURSOR to highlight "Adjust Display," then press ENTER.
3. Use the left and right CURSOR to adjust the Information Screen contrast.
4. Press ENTER when finished adjusting screen.

CHECK BATTERY LEVEL

Three states of the battery are possible: discharging, charging, or fully charged. Prior to unplugging the pump for transport purposes, this feature makes determining charge level of the battery easy.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "Check Battery Level," then press **ENTER**.

The screen display will provide information as to which state the pump is in and indicate if the pump is operating on the internal battery.

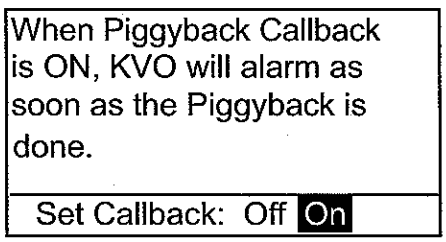
- DISCHARGING: The pump is unplugged and running on battery.
- CHARGING: The battery is not fully charged.
- FULLY CHARGED: The battery is 95% or more charged.

3. To exit the Battery Level screen, press **ENTER**.

PIGGYBACK CALLBACK

Piggyback Callback continues the primary infusion at a KVO rate and causes the pump to alarm. This feature may be accessed during the Run or Hold states.

1. Press **MENU**.
2. Use the **CURSOR** to highlight "Piggyback Callback", then press **ENTER**.
3. Use the **CURSOR** to highlight "On", then press **ENTER**.



NOTE: Piggyback Callback will return to OFF when the pump is turned off.

EPIDURAL

The Epidural menu item automatically sets the occlusion pressure to 750 mmHg, turns on the Micro Rate Limit and displays the word "Epidural."

MONITOR DOCKING

Monitor Docking allows the Outlook 200 to communicate with select monitoring systems to display current infusion parameters. Parameters displayed may vary depending on which monitoring system is being used. Refer to the Monitor Docking Guide for operations and troubleshooting.

SET-UP

An Outlook Biomed Box must be used to connect the Outlook pump to a monitor. Connect the male end of the DB9 connector to the back of the Outlook pump. Connect the cable from the monitor to the female connector on the Biomed Box.

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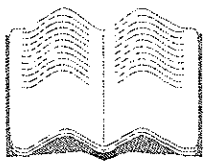
CHAPTER 11: ALARMS & TROUBLESHOOTING



IN THIS CHAPTER YOU WILL LEARN:

- How to silence pump alarms.
- How to correct pump alarms.

ALARMS: CAUSES & CORRECTIONS

The Information Screen notifies the user an alarm has occurred and displays information regarding the alarm. When **MENU** is pressed, the correction messages contained in the "Correction" column of the following Troubleshooting Guide table will appear.
There are three types of alarms:

- Operation Alarms: Press **MENU** to see the Help Screen which contains the guidelines in the Correction column of the Alarm Troubleshooting table below. Clear the alarm by pressing **HOLD**.
- System Alarms: Press **HOLD**, then press **RUN** to restart the infusion.
- Repair Instrument Alarms: Press **HOLD** and turn the pump off and then on again (similar to rebooting a personal computer). If the alarm recurs, return the pump to a Biomedical Professional for service.

When an alarm condition occurs, the following steps are recommended:

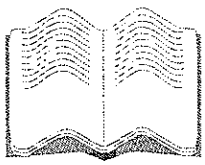
1. Read the message displayed on the Information Screen.
2. Press **HOLD** to silence the alarm.
3. Press **ENTER** with HELP highlighted to display the correction messages contained in the Correction column below.
4. Correct the cause of the alarm.
5. Press **RUN** to continue the infusion.
6. Monitor the process according to institution policy.

ALARM	MESSAGE	CAUSES	CORRECTION
Air-in-Line	Air	The pump will generate an Air-in-Line alarm when an air bubble has been detected in the Air-in-Line detector.	Air in downstream tubing Tubing improperly inserted in Air-In-Line Detector
Battery Very Low	Plug In	The battery is low.	Plug into AC power NOW to continue operation
Close Roller Clamp	Check Set	This alarm is generated when the user attempts to start an infusion without an IV set installed, or if the IV set is improperly installed.	CLOSE ROLLER CLAMP. Then open door. Check placement of Secure Flow Clamp.

ALARM	MESSAGE	CAUSES	CORRECTION
Container Is Empty	Solution Empty	The pump is not receiving fluid from the source container.	Check for air in set Check fluid level Check upstream clamp Check cassette installation
Downstream Occlusion	Occlusion	The pump allows the user to set an occlusion detection limit in the user menu system. If the pump determines it cannot deliver fluid at a fluid pressure lower than the user set limit, the pump will generate an Occlusion alarm.	Clamp closed or filter blocked Tubing kinked IV positional or infiltrated Catheter or vein too small Check occlusion limit
Door Open	Door Open	If the user attempts to start an infusion while the door is open, or if the door is opened during an infusion, the pump will generate a Door Opened During Delivery alarm.	The door must be shut to deliver fluid.
Hold Time Exceeded	Hold	The pump will generate a Hold Time Exceeded alarm when there has been no key panel activity for 3 minutes.	Pump on hold with the door closed for more than 3 mins.
KVO	3.0 or current rate	When the Volume to be Delivered (VTBD) decrements to zero, the pump will continue to deliver fluid at a Keep Vein Open (KVO) rate. A KVO alarm will be generated by the pump when the KVO rate begins.	KVO: infusion complete.
Low Battery Warning	Plug In	The internal battery is low.	Battery too low; plug in AC

ALARM	MESSAGE	CAUSES	CORRECTION
System Error	Error	This alarm is generated when there has been an internal pump malfunction.	Turn the pump off and return to Biomedical Professional for service
Set Primary Rate	Flashing 0.0	This alarm is generated when the user tries to start a primary channel infusion and has not set a primary rate.	Set a Primary Rate.
Set Piggyback Rate	Flashing 0.0	This alarm is generated when the user tries to start a piggyback channel infusion and has not set a piggyback rate.	Set a Piggyback Rate.
Set Primary Volume	Flashing 0.0	This alarm is generated when the user tries to start a primary channel infusion and has not set a primary VTBD.	Set a Primary VTBD.
Set Piggyback Volume	Flashing 0.0	This alarm is generated when the user tries to start a piggyback channel infusion and has not set a piggyback VTBD.	Set a Piggyback VBTD.

CHAPTER 12: MAINTENANCE



IN THIS CHAPTER YOU WILL LEARN:

- How to clean the pump.
- Under what conditions to store the pump.

CLEANING

Clean the pump with a soft, lint-free cloth or swab dampened with soap and water, a general nonstaining chemical disinfectant, or isopropyl alcohol (90% concentration or less).

As a general recommendation for cleaning and disinfecting this device, use a lint free cloth dampened (not soaked) with a 0.5% bleach (Sodium Hypochlorite) solution (one part bleach with nine parts water). The solution is most effective when prepared weekly and allowed to remain on the device for approximately 10 minutes prior to wiping off.

DO NOT use acetone solutions containing glutaraldehyde or abrasive cleansers on the pump. If necessary, Betadine or Iodine solutions may be used, but they will stain the pump.

DO NOT use abrasive cleaning tools or pressurized spraying devices as these may damage the device.

DO NOT sterilize the pump using ethylene oxide (EtO) gas as this may damage the device.

WARNING: To avoid mechanical or electronic damage, do not steam autoclave or immerse the pump in any fluids or cleaning solutions.

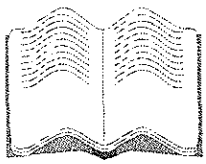
CAUTION: To avoid electrical shock, turn off the pump and disconnect it from the electrical outlet before cleaning.

STORAGE

To prolong the life of the Outlook™ 200:

- Store the pump away from excessive heat, cold, or humidity.
- Keep devices plugged into electrical power during storage.

CHAPTER 13: TECHNICAL & CLINICAL SUPPORT



IN THIS CHAPTER YOU WILL LEARN:

- How and when to contact Technical Support.
- How to contact Clinical Support.

TECHNICAL SUPPORT

If the pump fails to respond to the operating or troubleshooting procedures listed in this manual and the cause cannot be determined, discontinue use and forward it to an authorized B. Braun Service Center.

Should it be necessary to return the pump for repair, contact Technical Support at B. Braun Customer Service at (800) 627-PUMP. A Returned Materials Authorization number will be provided. Carefully pack the pump (preferably in the original packing), and ship it prepaid to the address below. B. Braun cannot assume any responsibility for loss or damage to returned instruments while they are in transit.

Service and product performance information, operation training, service training, and service manuals may be obtained from the manufacturer by contacting:

B. Braun Medical Inc.
1601 Wallace Drive, Suite 150
Carrollton, TX 75006
Attn: Service Manager
or call (800) 627-PUMP

Product complaints may be sent to the Quality Assurance Manager at the above address.

With each complaint, please include:

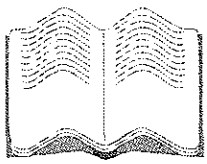
- the pump's serial number and software revision,
- a description of the difficulty experienced,
- the pressure limit setting,
- the rate setting,
- the initial volume(s) to be infused,
- the type of fluid(s),
- the amount of time between the start of the infusion and the time the difficulty was noticed,
- the message displayed at the time the difficulty occurred,
- the catalog and lot number of the set(s) in use,
- the diagnostic code (if applicable),
- and any other information which might aid in the investigation of the complaint.

Authorization to return products must be received from B. Braun prior to shipment. Please contact Customer Service at the above phone number for a Returned Materials Authorization Number.

CLINICAL SUPPORT

The customer may speak with a Registered Nurse for clarification of operating instructions or clinical applications for the Outlook™ 200. A Clinical Support Specialist may be reached at (800) 854-6851.

CHAPTER 14: PRODUCT SPECIFICATIONS



IN THIS CHAPTER YOU WILL LEARN:

- About the product specifications.

PRODUCT SPECIFICATIONS

Type of Unit	Volumetric (Non Drop-Counting), Positive Pressure Displacement Reservoir
Classification	Class 1-Internally Powered, CF type, IPX1 drip-proof, not suitable in the presence of flammable anesthetic and intended for continuous use in accordance with UL2601-1.
Bar Code Scanner	Class 2 in accordance with IEC 60825-1 Maximum Output=1mW, Scan Rate=42 scans/sec.
Moisture Protection	**IPX1**; drip protected for horizontal usage
EMI/EMC Compliance	Meets or exceeds EN60601-1-2:2001 for Class B, emissions and immunities standard.
Ground Impedance	Less than 0.2 ohms (tested per UL2601-1)
Electrical Shock Protection	 Type CF shock protection in accordance with UL2601-1.
Power Requirements	120 VAC, 2A, 60 Hz excluding accessories
Grounding Resistance	Meets UL Standard 2601-1
Leakage Current	Less than 300uAmps earth leakage (tested per UL 2601-1)
Plug	Hospital Grade (3 pin)
Dimensions (approx.)	Width =12", Height=4.5", Depth=8.75"
Weight	Approximately 11 pounds
Pole Size Range	0.875"-1.3"
Operating Time of Battery	3 hours operating time at rate of 125 ml/hr with a fully charged, new 12 Volt sealed lead-acid battery.
Delivery Rate Range	0.1 to 999.9 ml/hr, in 0.1 ml/hr increments Micro Mode: 0.1 to 99.9 ml/hr
Volume to be Delivered Range	0.1 to 9999.9 ml, in 0.1 ml increments
Occlusion Limit Settings	75, 100, 200, 300, 400, 500 and 750 mmHg. Standard default is 300 mmHg.
Keep Vein Open Rate	3.0 ml/hr or selected rate, whichever is lower
Volume Delivered Accuracy	± 5%
Fluid Types	All standard IV fluids

Alarms	Air-In-Line, Battery Very Low, Close Roller Clamp, Container Empty, Downstream Occlusion, Door Open, Hold Time Exceeded, KVO, Low Battery Warning, System Error.
Air-in-Line Alarm	≥ 100 microliter bubble
Free-Flow Protection	Passive, set-based
Memory	Permanent data retention after the pump is turned off unless the battery is depleted or disconnected, or unless the Data Retention Defaults have been otherwise selected in the Biomed Options.
Environmental Operating Limits	65° F to 105° F (18° C to 40° C)
Maximum Bolus Volume (Microbore Tubing)	0.047 ml at 399 ml/hr (75 mmHg) 0.086 ml at 399 ml/hr (750 mmHg) 0.053 ml at 500 ml/hr (400 mmHg) 0.097 ml at 750 ml/hr (750 mmHg)
Maximum Time to Occlusion Alarm	24 min at 0.1 ml/hr (75 mmHg) 33 sec at 399 ml/hr (75 mmHg) 6 hours at 0.1 ml/hr (750 mmHg)

ACCURACY TEST TRUMPET CURVES

The Outlook™ 200, operated with B. Braun Medical Inc. Horizon® IV Pump Sets, maintains a volumetric accuracy with delivery errors not exceeding +/-5% for any one hour period over a 72 hour period. The following graphs (or Trumpet Curves) are provided to illustrate the results of Outlook 200 volumetric accuracy tests. Additional testing results may be obtained from the manufacturer upon request.

TRUMPET CURVE CREATION

The Trumpet Curves were developed in accordance with IEC 601-2-24, dated 1998, which defines data collection and manipulation methods.

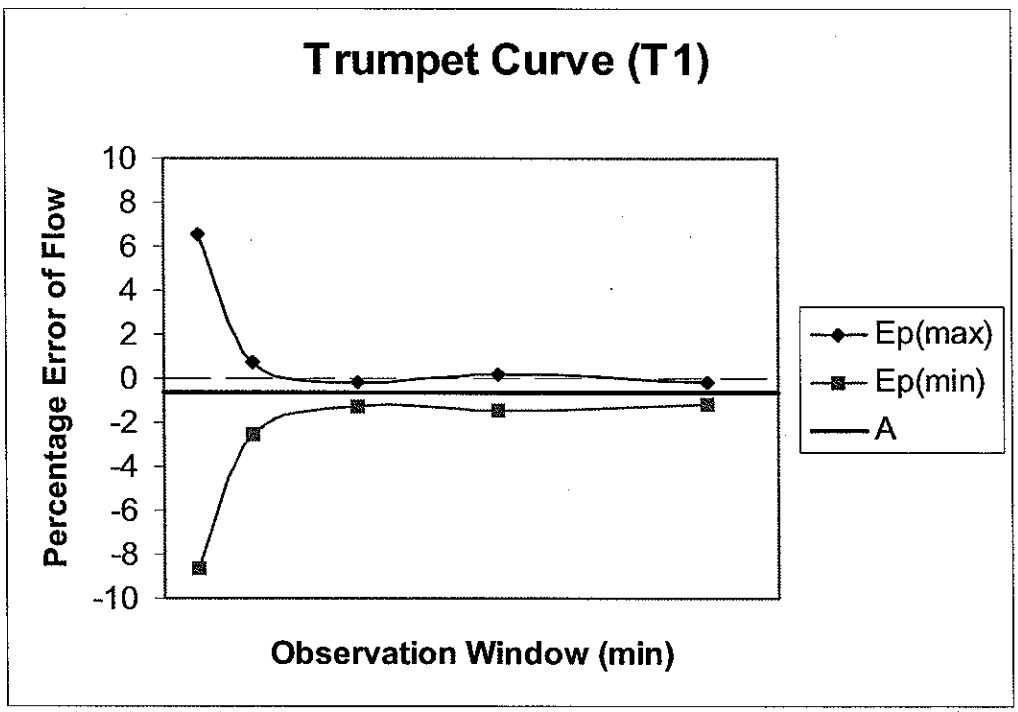
- The Trumpet Curves were created in the following manner:
- Fluid from the Outlook is collected at the set flow rates over a defined time period.
- Every 30 seconds, the cumulative weight of the fluid is recorded.
- The data from the second hour of delivery (show as T1 here) are divided into observation windows and the average flow rate accuracy within those windows is calculated.
- The maximum positive and negative flow rate accuracy values (as they deviate from the set rate) are then picked out of the thirty accuracy values and plotted on the curve at

the 2-minute interval.

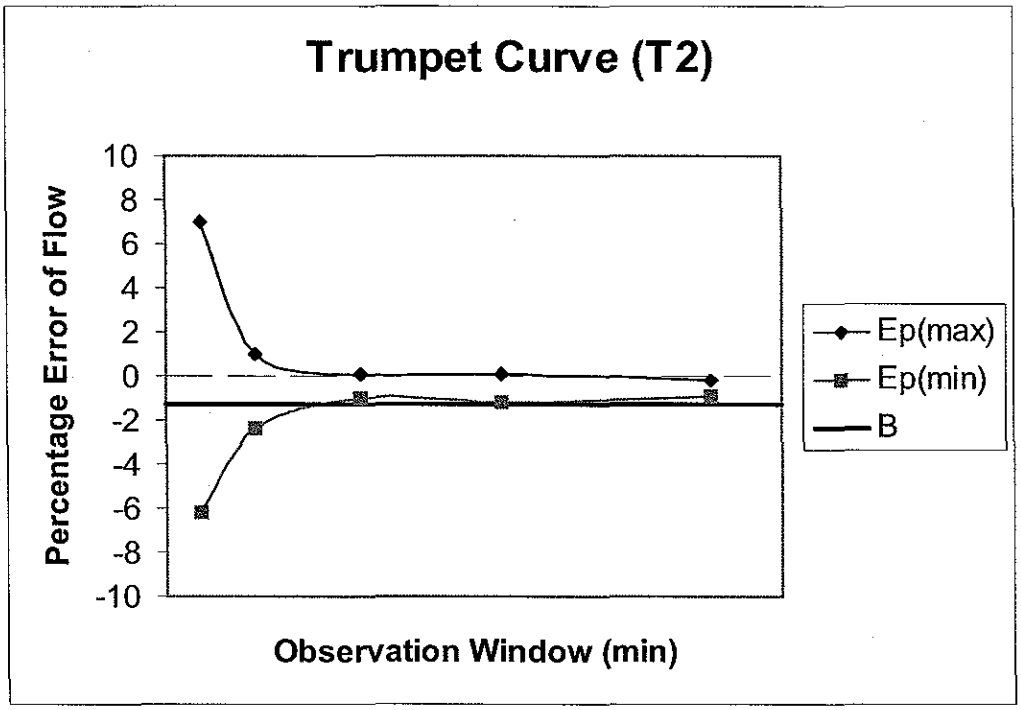
- Continuing on, this same data from the second hour of delivery are divided into twelve 5-minute windows. The flow rate accuracy is calculated for each window. The maximum positive and negative accuracy values are picked out of the twelve accuracy values and plotted on the curve at the 5-minute interval.
- The same procedure is repeated for time intervals of 11, 19, and 31 minutes and the resulting maximum positive and negative flow rate accuracy values are plotted on the curve at their respective time intervals.
- Lines are then drawn to connect the plotted points to create the Trumpet Curve. This process is repeated for the last period of delivery.

TRUMPET CURVE INTERPRETATION

Trumpet Curves provide a graphical view of the maximum deviation in flow from the programmed delivery rate for specific segments of delivery time. The horizontal axis represents discrete delivery times as defined in the standard. The widest area of the Trumpet Curve (greatest deviation) reflects the beginning of the test which consist of the smallest sampling intervals or observation windows. As the number of sampling intervals increases, the deviations in flow from the programmed delivery rate are reduced. The deviations spread out over time resulting in the narrowing of the Trumpet Curve. The entire Trumpet Curve represents a more realistic representation of the device's average flow rate accuracy over longer intervals of time.



Trumpet Curve, 2nd Hour of Delivery



Trumpet Curve, Last Hour of Delivery

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